

REMARKS

By this amendment, claims 1-9 have been amended. Accordingly, claims 1-9 are currently pending in the application, of which claim 1 is independent. The specification has been amended to provide government funding information. [Applicant respectfully submits that the above amendments do not add new matter to the application and are fully supported by the specification. Support for the amendments may be found at least at Pages 13 and 14, and in Figures 4 and 5.

In view of the above amendments and the following Remarks, Applicant respectfully requests reconsideration and withdrawal of the pending objections and rejections for the reasons discussed below.

Claim Objection

In the Office Action, the claims were objected to as not being consecutively numbered. Claim 23 was renumbered as claim 9. The present amendment renumbers claims 23 as claim 9.

Further, claims 2-9 were objected to for not being dependent upon a pending claim. Claims 2-9 have been amended such that they are dependent upon a currently pending claim.

The claim numbering and dependency amendments are made for the sole purpose of complying with 37 C.F.R. §1.126. This amendment is not made for the purpose of avoiding prior art or narrowing the claimed invention, and no change in claim scope is intended.

Therefore Applicant does not intend to relinquish any subject matter by these amendments.

Applicant respectfully submits that claim 1-9, as amended, overcomes the stated objection.

Accordingly, Applicant respectfully requests withdrawal of the objection for claims 2-9.

Rejections Under 35 U.S.C. §103

Claims 1-6 stand rejected under 35 U.S.C. §103(a) as being unpatentable over U. S. Patent No. 5,886, 313 issued to Krause, *et al.* (“Krause”) in view of U. S. Patent No. 5,968,671 issued to Joseph (“Joseph”). Applicants respectfully traverse this rejection for at least the following reasons.

Krause is directed to a laser diode array device for bonding metal plates. With reference to Figure 1 in Krause, the apparatus of Krause utilizes two rollers 5 and 6 to bond together two metal plates 8 and 9 with laser radiation 10 at the joint 3 of the metal plates as the metal plates are passed between the two rollers. See Krause, col. 5, l. 59 – col. 6, l. 47. The end result is a plate that exits the two rollers 5 and 6, and is made up of two metal plates that have been bonded together by a laser. In contrast, claim 1, as amended, is directed to an apparatus comprising, among other things, a planar surface and a compaction device attached to the carriage mechanism so as to permit controlled relative movement between the compaction device and the planar surface.

Krause is directed to an apparatus with two rollers and a laser diode array device for bonding metal plates using opposing rollers. An apparatus with a planar surface to support the consolidated metal matrix composite material is nowhere disclosed, taught or suggested in Krause. Similarly, Joseph does not disclose, teach, or suggest an apparatus with a “planar surface” as claimed in claim 1. Even the combination of these references fails to provide, among other things, a “planar surface” as claimed in claim 1. For these reasons, Applicant respectfully submits that claim 1 is not obvious over Krause in view of Joseph. Accordingly, Applicants respectfully request withdrawal of the 35 U.S.C. §103(a) rejection of claim 1. Since the none of

the other prior art of record, whether taken alone or in any combination, discloses or suggests all the features of the claimed invention, Applicants respectfully submit that independent claim 1, and all the claims that depend therefrom are allowable.

Claim 7 stands rejected under 35 U.S.C. §103(a) as being unpatentable over Krause in view of Joseph and further in view of U. S. Patent No. 5,289,966 issued to Izumi ("Izumi"). Izumi is cited for teaching the use of IR reflector lamps for preheating. Like the combination of Krause in view of Joseph, Izumi does not teach the use of a "planar surface." Claim 7 is dependent from claim 1. For the reasons set forth above with respect to claim 1, Applicant respectfully submits that claim 1 is not obvious over Krause in view of Joseph and further in view of Izumi and respectfully requests withdrawal of the 35 U.S.C. §103 rejection.

Claim 8 stands rejected under 35 U.S.C. §103(a) as being unpatentable over Krause in view of Joseph and further in view of U. S. Patent No. 6,046,426 issued to Jeantette ("Jeantette"). Jeantette is cited for teaching the use of an optical pyrometer to provide temperature feedback information to control the laser. Like the combination of Krause in view of Joseph, Jeantette does not teach the use of a "planar surface" in an apparatus for the consolidation of metal matrix composites. Claim 7 is dependent from claim 1. For the reasons set forth above with respect to claim 1, Applicant respectfully submits that claim 1 is not obvious over Krause in view of Joseph and further in view of Jeantette and respectfully requests withdrawal of the 35 U.S.C. §103 rejection.

Claim 9 stands rejected under 35 U.S.C. §103(a) as being unpatentable over Krause in view of Joseph and further in view of U. S. Patent No. 4,779,563 issued to Ishikawa ("Ishikawa"). Ishikawa is cited for the teaching to apply vibratory energy to the prepreg tape.

Like the combination of Krause in view of Joseph, Ishikawa does not teach the use of a “planar surface.” Claim 9 is dependent from claim 1. For the reasons set forth above, Applicants respectfully submits that claim 9 is not obvious over Krause in view of Joseph and further in view of Ishikawa and respectfully requests withdrawal of the 35 U.S.C. §103 rejection.

Accordingly, Applicants respectfully request withdrawal of the 35 U.S.C. §103(a) rejection of claims 1-9. Since the none of the other prior art of record, whether taken alone or in any combination, discloses or suggests all the features of the claimed invention, Applicants respectfully submit that independent claim 1, and all the claims that depend therefrom are allowable.

A Petition for a three (3)-month extension of time under 37 C.F.R. §1.136(a) is filed herewith extending the period for response through December 21, 2005. It is not believed that any further extensions of time are required other than those in the accompanying Petition. If extensions of time are necessary to prevent abandonment of this application, then such extensions of time are hereby petitioned for under 37 C.F.R. §1.136(a). Applicants believe that no further fees for net addition of claims are required at this time. Any fees required for further extensions of time and any fees for the net addition of claims are hereby authorized to be charged to our Deposit Account No. 503310.

Applicants believe that a full and complete response has been made to the pending Office Action and respectfully submit that all of the stated objections and grounds for rejection have been overcome or rendered moot. Should the Examiner feel that there are any issues outstanding after consideration of this response, the Examiner is invited to contact the Applicant's

undersigned representative at the number below to expedite prosecution. Prompt and favorable consideration of this Reply is respectfully requested.

Respectfully submitted,



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